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A remarkable new species of the genus *Mythimna* (Lepidoptera, Noctuidae, Hadeninae) **from Papua New Guinea**

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Abstract On the basis of two males, an interesting new species having white forewing with broad fuscous lines, *Mythimna* (*Mythimna*) *leucomelaena*, is described from Papua New Guinea. The male genitalia of a similar species, *Mythimna* (*Mythimna*) *tessellum* (Draudt, 1950) known from China, are described also.

Key words *Mythimna leucomelaena* sp. nov., *Mythimna tessellum*, Lepidoptera, Noctuidae, Papua New Guinea.

Introduction

Through the kind courtesy of Dr S. E. Miller of BPBM, Honolulu, I could have an opportunity to examine the specimens of the genus *Mythimna* deposited in the museum. And I have discovered an interesting new species of the genus *Mythimna* in the collection.

Usually the moths of this group do not have bright coloration and they are pale ochreous white to deep ochreous and striated along veins, and the darker transverse markings are usually inconspicuous or reduced to dots as mentioned by Calora (1966). However, the new species has distinctly broad fuscous ante- and postmedial lines on the white forewing.

Hyssia tessellum Draudt, 1950 known from China also has similar external features. The imago was illustrated by Draudt (1950: pl. 2: 21) and later this species was transferred to the genus *Mythimna* by Boursin (1967). *Mythimna tessellum* has a long fuscous stria beginning from the upper portion of antemedial line and reaching the marginal portion, penetrating the postmedial line, while the new species does not have such a penetrating fuscous stria running in the central portion of the forewing.

Used acronyms are BPBM: Berince P. Bishop Museum, Honolulu, U. S. A. and ZFMK: Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany.

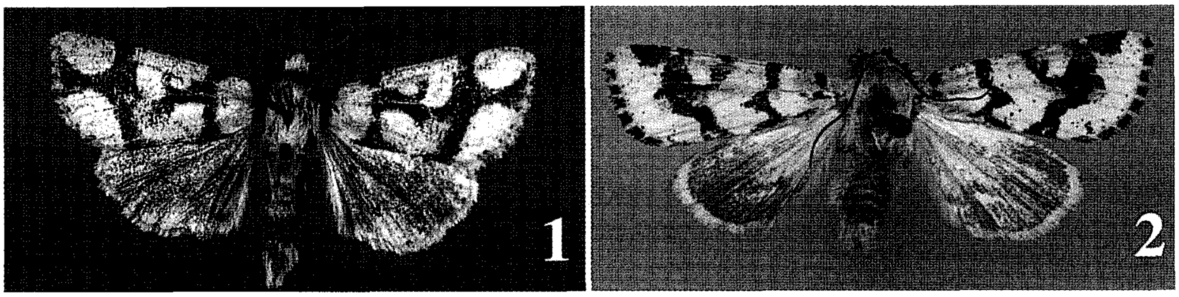
Descriptions

Mythimna* (*Mythimna*) *tessellum (Draudt) (Figs 1 & 3)

Hyssia tessellum Draudt, 1950, *Mitt. münch. ent. Ges.* **40**: 41, pl. 2, fig. 21.
Mythimna tessellum: Boursin, 1967, *Z. wien. ent. Ges.* **52**: 28, pl. 1, fig. 9.
Leucania tessellum: Poole, 1989, *Lepid. Cat.* (New Series) **118**: 587.

Male (Fig. 1). The description was already given by Draudt (1950).

Female. Similar to male.



Figs 1–2. Adults of *Mythimna* spp. 1. *M.* (*Mythimna*) *tessellum* (Draudt), lectotype. 2. *M.* (*Mythimna*) *leucomelaena* sp. nov., holotype.

Male genitalia (Fig. 3). Tegumen moderately broad in lateral view; vinculum relatively slender; saccus small. Uncus slightly short with many hairs over the middle. Valva except cucullus long with roundly produced posterior margin; costa weakly curved; editum small; ampulla long and its distal half running along the posterior margin of valvula; sacculus moderately broad; harpe moderately long with a relatively long process dorsally; valvula moderately broad with narrow membranous area; cucullus small with two dorsal processes and many diffused coronal spines and its basal arm long. Juxta rectangular. Phallus unmodified; vesica moderately long, about 1.7 times as long as aedeagus when everted, bearing dense spinules on entire surface of distal half, a large spine and a few long spines near distal end.

Lectotype designation. ♂, Li-kiang *ca* 3,000 m, Prov. Nord-Yuennan, China, 30. vi. 1935, here designated.

Specimens examined. 1 ♀ (paralectotype), Li-kiang, China, 29. v. 1935; 1 ♂, *ditto*, 1. vii. 1934, Li-kiang, China, Prēp. Ch. Boursin N° Hö 430; 1 ♂, *ditto*, 22. vi. 1934; 1 ♂, *ditto*, 29. vi. 1934; 1 ♂, *ditto*, 4. vii. 1934.

Distribution. Li-kiang, China.

Remarks. Dr D. Stüning of ZFMK, Bonn gave me following comments on the types: "There are two specimens of *Hyssia tesselum* Draudt, 1950, labelled with original labels by Draudt himself: the one male dated 30. vi. 1935 (labelled as 'Holotype') and a female dated 29. v. 1935 (labelled as 'Allotype'). In the original description Draudt wrote: 'einige Stücke von Li-kiang, 29. und 30. V. 35' meaning 'some specimens from Li-kiang, 29. and 30. V. 1935'. So I think it was just an error that he did not write 29. V. and 30. VI. and I would propose to designate the male as lectotype, by making just this comment. Besides, we have 4 additional males, also from Li-kiang, collected 22. vi. 1934, 29. vi. 1934, 1. vii. 1934 (with genitalia prep. No. Hö 430 by Ch. Boursin) and 4. vii. 1934. The latter 4 cannot be considered as syntypes though Boursin labelled the genitalia slide with 'Paratype'". Therefore, according to his proposal, the lectotype was designated as above.

One of the processes of the cucullus on the right valva, part of the phallus and the largest cornutus on vesica of genitalia prep. No. Hö 430 by Ch. Boursin illustrated in Fig. 3 are broken presently. I have checked the copy of the photograph of the same genitalia slide formerly presented by the late Dr M. Hreblay, but nothing is broken. Probably someone has opened it and has everted the vesica and the parts mentioned above must have been broken at that time. However, as the copy is not in good condition, it is not illustrated here.

Judging from the male genitalia, it is clear that this species belongs to the subgenus *Mythimna* on the basis of their characteristics. On the other hand, the following new species is also a

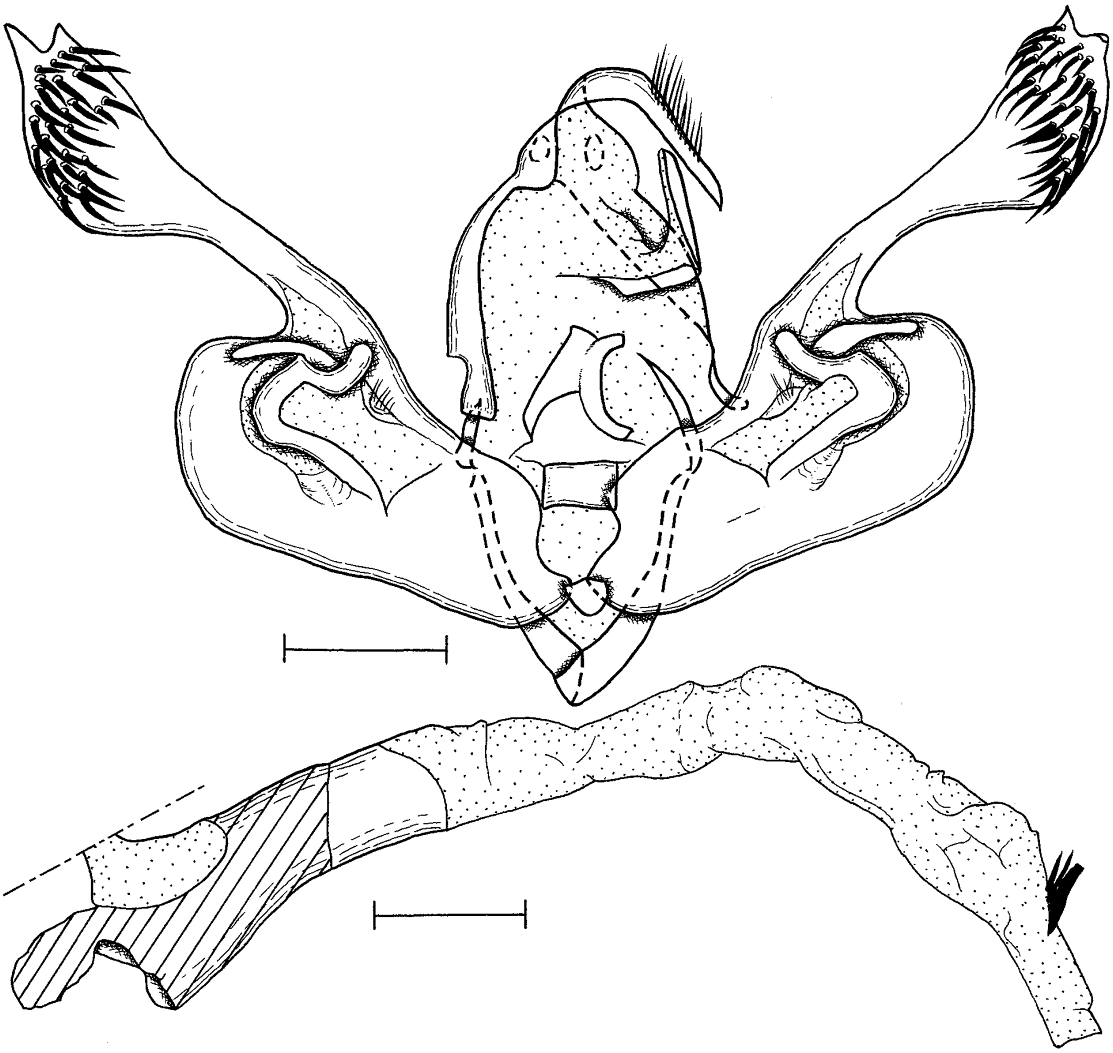


Fig. 3. Male genitalia of *Mythimna* (*Mythimna*) *tessellum* (Draudt). Scales 1 mm.

member of the same subgenus although lacking the bubble-like structure connecting the pair of valvae usually seen in most species of the subgenus. The same is true for *Mythimna* (*Mythimna*) *curvilinea* as Yoshimatsu (1994) mentioned. Other distinguishable points in the male genitalia of these two species are given in the remarks of the next species.

***Mythimna* (*Mythimna*) *leucomelaena* sp. nov.** (Figs 2 & 4)

Male (Fig. 2). Length of forewing 12.7–13.8 mm.

Frons and vertex white, slightly mixed with fuscous. Thorax and tegula white, slightly mixed with fuscous. Abdomen fuscous brown, mixed with white. Forewing white and entirely irrorated with fuscous; basal spot fuscous; subbasal line represented by two large fuscous spots on costa and below cell; antemedial line fuscous and broad, strongly curved outwards below cell, strongly curved inwards and strongly curved outwards below vein 1; orbicular and reniform stigmata indistinct; postmedial line fuscous and broad, and at the middle connected with a fuscous broad line running from the central portion of costa; terminal line indistinct; cilia white, chequered with fuscous. Underside of forewing white,

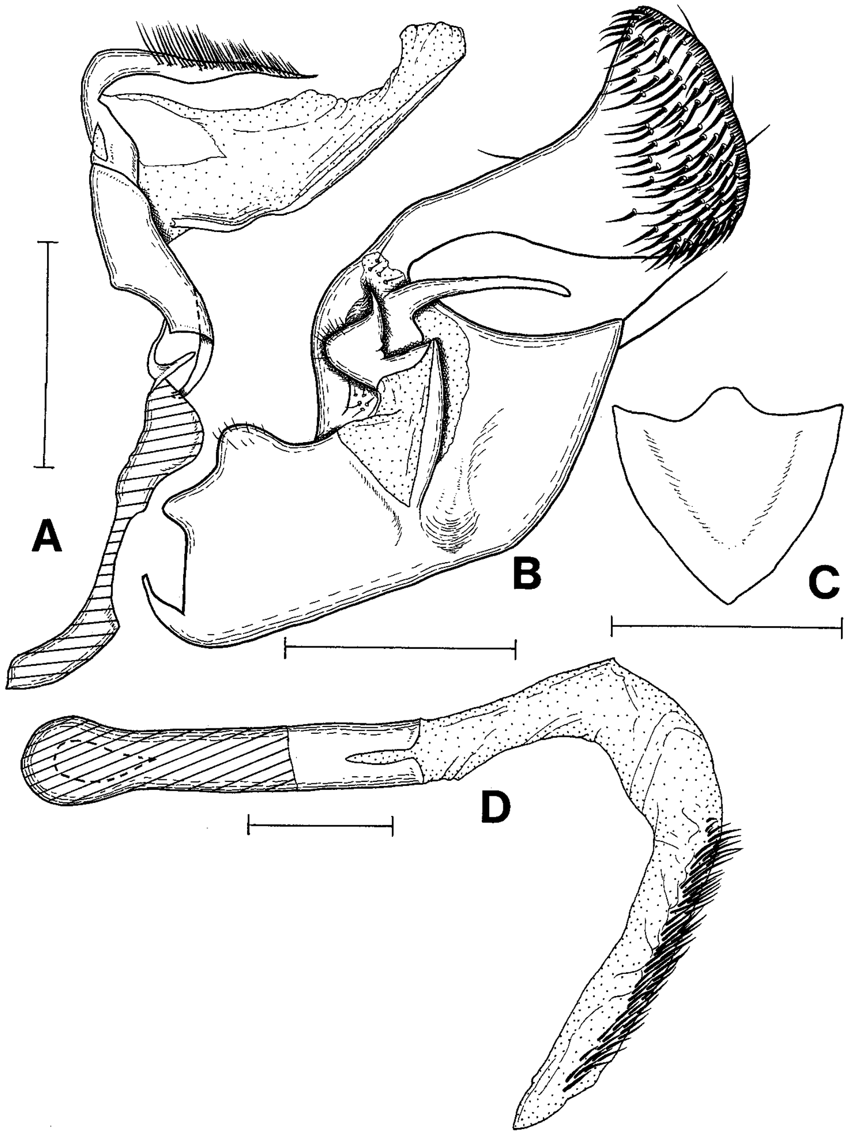


Fig. 4. Male genitalia of *Mythimna* (*Mythimna*) *leucomelaena* sp. nov., holotype. A: Ring in lateral view; B: Right valva in inner view; C: Juxta; D: Phallus in ventral view. Scales: A, B & D: 1 mm; C: 0.5 mm.

irrorated with fuscous, with a very broad fuscous postmedial line; cilia white, chequered with fuscous. Hindwing white, with fuscous outer half; cilia white. Underside of hindwing white, irrorated with fuscous; a fuscous discoidal spot; postmedial line fuscous; terminal line represented by small fuscous spots on interspaces; cilia white.

Female. Unknown.

Male genitalia (Fig. 4). Tegumen slightly broad in lateral view; vinculum relatively slender; saccus small and elongated anteriorly. Uncus slightly short with many thick hairs over the middle. Valva except cucullus long with strongly produced triangular corner posteriorly; costa strongly curved; editum moderately large with hairs; ampulla long and slender, its distal 4/5 beyond the posterior margin of valvula; sacculus slightly broad with two humps dorsally; harpe moderately long with a large hooked process dorsally; valvula moderately broad with narrow membranous area; cucullus large and battledore-shaped with many small spines along posterior margin, many diffused coronal spines and its basal arm moderately long. Juxta as in Fig. 4C. Phallus unmodified; vesica moderately long, about 1.9 times as long as aedeagus when everted, bearing dense spinules on entire surface of distal half and irregular rows of long spines on distal half.

Type series. Holotype. ♂, Papua New Guinea, Morobe Prov.: Mt Kaindi, 9. vi. 1950 (written as 9. vi. L.), J. M. Sedlacek, Colln Bishop Museum. Paratype. 1 ♂, *ditto*, 6. x. 1962, Colln Bishop Museum.

Type depository. Holotype and paratype are preserved in BPBM, Honolulu.

Distribution. Papua New Guinea.

Remarks. The cucullus does not have processes and the ampulla is very long and running beyond the posterior margin of valvula in this new species, but in *Mythimna tessellum* the cucullus has two distinct processes dorsally and the ampulla is short and reaching the posterior margin of valvula but never beyond it.

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I would like to thank Dr S. E. Miller of BPBM, Honolulu for the loan of specimens and Dr D. Stüning of ZFMK, Bonn, for the information on the types and other specimens of *Mythimna tessellum*. Thanks are also due to the late Dr M. Hreblay of Hungary for the copy of photographs of genitalia slide of *Mythimna tessellum* and Dr V. S. Kononenko of Institute of Biology and Soil Science, Far Eastern Branch of Russian Academy of Science, Vladivostok, Russia for the photograph of *Mythimna tessellum*.

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摘　要

パプアニューギニア産の目立つ前翅斑紋を備えたキヨトウ *Mythimna* 属（鱗翅目，ヤガ科，ヨトウガ亜科）の1新種（吉松　慎一）

ハワイのホノルルにあるビショップ博物館 (Berince P. Bishop Museum) の S. E. Miller 博士のご厚意で当博物館所蔵のキヨトウの標本を借用することが出来た．当博物館には，ハワイから琉球，台湾，フィリピン，ニューギニア，ニューカレドニアに至る太平洋上の多くの諸島の標本が所蔵されている．

キヨトウは一般に前翅は一様な淡黄褐色で，斑紋もほとんど目立たない．ところが，ビショップ博物館所蔵標本の中に他のキヨトウとは外見が相当に異なるニューギニア産の1種を見い出したので，ここで新種 *Mythimna* (*Mythimna*) *leucomelaena* sp. nov. (Fig. 2) として記載した．本種は白色の地色の前翅に黒褐色で顕著に太い内横線と外横線を備える．雄2個体に基づいて記載したが，雌は現時点で

は知られていない.

類似種としては，中国の Li-kiang から記載された *Hyssia tessellum* Draudt, 1950 (Fig. 1) が1種知られるのみである．本種は後に Boursin (1967) によって *Mythimna* 属に移された．本種は *M. leucomelaena* sp. nov. 同様白色の前翅に黒褐色で顕著に太い内横線と外横線を備えるが，さらに内横線上部から外横線を突き抜け前翅外縁にまで届く太い黒褐色の条線を備えることで外見的に容易に識別できる．本論文で記載した新種は雄交尾器の cucullus 上には外縁の列状の短い corona と後半部の比較的長い corona を備え，大部分のキヨトウに見られる左右の valva を連結させる球状の硬化部が無い (Fig. 4). *Mythimna tessellum* では外縁の列状の corona はなく cucullus 後半部に corona を広く備え，また，cucullus 背方に2個の突起を持つ (Fig. 3).

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